

## **IN THE CLAIMS**

Please further amend claims 1, 5, and 6 as follows.

Claim 1 (Currently Amended): A method of cleaning a heat treatment apparatus ~~that~~ deposits including a treatment vessel having therein quartz structures that are exposed to an  $\text{SiO}_2$  film deposited by means of TEOS on an object to be processed contained in a the treatment vessel, the treatment vessel being capable of forming a vacuum, the method comprising the step of:

cleaning the heat treatment apparatus by supplying a mixed gas of an HF gas and an  $\text{NH}_3$  gas into the treatment vessel ~~for~~ while restraining damage to quartz material present in the quartz structures during said cleaning by limiting said cleaning to a period of 0.6 minute or less.

Claim 2 (Original): The method of cleaning a heat treatment apparatus according to claim 1, wherein

during the cleaning step, a temperature in the treatment vessel is in a range of from  $100^\circ\text{C}$  to  $300^\circ\text{C}$ .

Claim 3 (Original): The method of cleaning a heat treatment apparatus according to claim 1 or 2, wherein

during the cleaning step, a pressure in the treatment vessel is equal to or more than 53200 Pa (400 Torr).

Claim 4 (Previously Presented): The method of cleaning a heat treatment apparatus according to claim 1 or 2, wherein

during the cleaning step, a supply amount of the HF gas is equal to or more than a supply amount of the  $\text{NH}_3$  gas.

Claim 5 (Currently Amended): A method of cleaning a heat treatment apparatus ~~that deposits~~ including a treatment vessel having therein quartz structures that are exposed to an AsSG film deposited by means of TEOS on an object to be processed contained in ~~[[a]] the~~ treatment vessel, the treatment vessel being capable of forming a vacuum, the method comprising the step of:

cleaning the heat treatment apparatus by supplying a mixed gas of an HF gas and an NH<sub>3</sub> gas into the treatment vessel ~~for~~ while restraining damage to quartz material present in the quartz structures during said cleaning by limiting said cleaning to a period of 0.6 minute or less.

Claim 6 (Currently Amended): A method of cleaning a heat treatment apparatus ~~that deposits~~ including a treatment vessel having therein quartz structures that are exposed to a deposited BSG film by means of TEOS on an object to be processed contained in ~~[[a]] the~~ treatment vessel, the treatment vessel being capable of forming a vacuum, the method comprising the step of:

cleaning the heat treatment apparatus by supplying a mixed gas of an HF gas and an NH<sub>3</sub> gas into the treatment vessel ~~for~~ while restraining damage to quartz material present in the quartz structures during said cleaning by limiting said cleaning to a period of 0.6 minute or less.

Claim 7 (Previously Presented): The method of cleaning a heat treatment apparatus according to claim 3, wherein

during the cleaning step, a supply amount of the HF gas is equal to or more than a supply amount of the NH<sub>3</sub> gas.